




Maintaining Your Computer

Objectives


- ▶ Format a disk
- ▶ Copy a disk
- ▶ Find and repair disk errors
- ▶ Defragment a disk
- ▶ Clean up a disk
- ▶ Restore computer settings
- ▶ Remove a program
- ▶ Add a program
- ▶ Enter DOS commands

Windows XP offers a number of useful tools for managing such routine tasks as installing and removing programs, and formatting, copying, and repairing disks. Windows XP also provides tools to find and fix disk problems, speed up disk access, clean up disk space, and restore computer settings when problems occur. By periodically finding and repairing disk errors or restoring computer settings, you can keep your files in good working condition and prevent disk problems that might cause you to lose your work. In addition, you can work with the DOS operating system to enter DOS commands or run older DOS-based programs alongside your Windows operating system.  John Casey, owner of Wired Coffee Company, formats and copies disks, performs several routine disk management tasks, and uses DOS commands to view his hard disk drive directory.





Formatting a Disk

Formatting a disk prepares it so that you can store information on it. Formatting removes all information from the disk, so you should never format a disk that has files you want to keep. Disks are now usually formatted before you buy them, so you no longer need to format a new disk before you can use it; however, formatting is still a quick way to erase old files from a floppy disk and to scan a disk for errors before you reuse it to store files. See Table F-1 for information about disk capacity, file system, and allocation unit size; default settings are strongly recommended. Do not use the disk that stores your Project Files for this lesson; use a disk that does not contain files you want to keep.  John wants to make a copy of the disk that stores his Project Files for safekeeping, but first he needs to format the disk to which he will copy.

Steps 1234

1. Click the **Start button** on the taskbar, point to **All Programs**, point to **Accessories**, then click **Windows Explorer**

2. Insert a floppy disk in the appropriate drive on your computer

In this example, the floppy disk drive is the 3½ (A:) drive. Make sure the disk you are using does not contain any files you want to keep.

3. In the left pane of Windows Explorer, click the **drive icon** containing your floppy disk
Disks and drives appear under the My Computer icon in the left pane of Windows Explorer. The icon representing the 3½ (A:) drive is highlighted, and the files on the disk drive appear in the right pane of Windows Explorer. Review the files on your floppy disk to make sure they are not ones you want to keep.

Trouble?

Formatting removes all the files on your disk, so do not use the disk that contains your Project Files or any disk that has files you want to keep.

4. Right-click the **drive icon** containing your floppy disk in the left pane of Windows Explorer, then click **Format** on the shortcut menu

The Format dialog box opens, as shown in Figure F-1. The fastest way to format a floppy disk is with the **Quick Format** option. This option simply formats a previously formatted disk, removing all files from it. The **Full Format** option, which you choose by deselecting the Quick Format check box, removes all files from any floppy disk and scans the disk for bad sectors. You should choose Quick Format only if you are sure that your disk is not damaged. Additional format options include Enable Compression and Create an MS-DOS startup disk. The **Enable Compression** option, supported only on NTFS drives, specifies whether to format the drive so that folders and files on it are compressed. The **Create an MS-DOS startup disk** option formats a disk so that you can start up your computer in MS-DOS, a disk-based operating system, to fix a problem, display information, or run an MS-DOS program using MS-DOS commands; experience with MS-DOS is required.

5. In the Format options area, click the **Quick Format check box** to select it

QuickTip

If you format a disk with the FAT file system, the label can contain up to 11 characters; all floppy disks use FAT. If you format a disk with NTFS, the limit is 32 characters.

6. Select any text in the **Volume label text box**, then type **Backup**

After you format the disk, the volume label appears in Windows Explorer and My Computer to make the floppy disk easier to identify.

7. Click **Start**, then click **OK** in the message box

A progress meter appears at the bottom of the Format dialog box. After a few moments, the Format Complete message box opens.

8. Click **OK** in the Format Complete message box

The Format Complete message box closes.

9. Click **Close** in the Format dialog box, then remove the formatted disk from the appropriate drive on your computer

The disk is now formatted. You will use the formatted disk in the next lesson to make a copy of your Project Files.

FIGURE F-1: Format dialog box

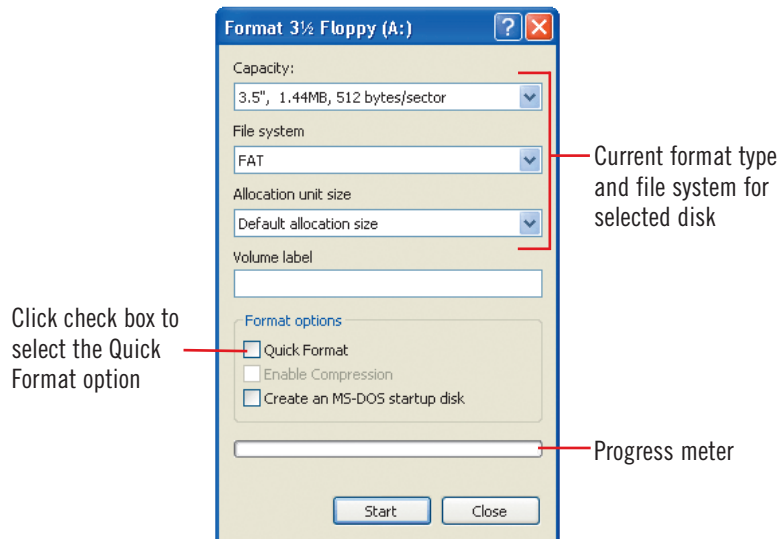


TABLE F-1: Format dialog box options

| option | description |
|-----------------------------|--|
| Capacity | Specifies how much data the disk or partition can hold, such as the physical size, storage size, and sector size. |
| File system | Displays the file system for the disk. A file system is the overall structure in which files are named, stored, and organized. NTFS and FAT are types of file systems. |
| Allocation unit size | Specifies the disk allocation unit size, or cluster size (a group of sectors on a disk). The operating system assigns a unique number to each cluster and then keeps track of files according to which clusters they use. The default allocation size is typically selected. |



Protecting against computer viruses


A **computer virus** is a program that attaches itself to a file, reproduces itself, and spreads to other files. A virus is typically attached to programs and files downloaded from the Internet, electronic mail attachments, or shareware disks containing free or inexpensive software or illegally obtained pirated software. When you open a program or file with the computer virus, the computer becomes infected with the virus and can corrupt or destroy data, or disrupt program or Windows functionality. For example, the Chernobyl virus attempts to erase a computer's hard drive and damage the computer's system settings, making it impossible to access your data. The virus is called the Chernobyl virus because it is timed to go off on April 26, the anniversary of the 1986 Russian nuclear accident, one of technology's worst disasters. The Chernobyl virus didn't propagate quickly because it required a person to open an infected file to

contaminate a computer. Many viruses stay dormant on a computer before doing any damage, so catching and destroying these viruses before they cause damage can prevent computer disaster. **Antivirus software**, or virus detection software, examines the files stored on a disk to determine whether they are infected with a virus, then destroys or disinfects them. Antivirus software typically starts when you start Windows and watches for viruses whenever your computer is on. Popular antivirus software, which needs to be purchased from a software retailer, includes Norton Antivirus and MacAfee VirusScan. New viruses appear all the time, so it is important that your antivirus software be kept up-to-date to look for the new viruses. You can easily download updates from the Internet. Typically, you should check for updates every three months, or if you hear about a new virus.



Windows XP

Copying a Disk

One way to protect the information on a disk from possible problems is to copy the disk, placing copies of all the files on it to another disk. Then, if information goes bad on a disk, you still have the copied information. You can use Windows to copy information from one disk to another using the same disk drive. When you copy disks, the disk must be the same type, either 3½", or 5¼", and size (1.44 MB or 1.2 MB), and not write-protected. A floppy disk is not write-protected when the tab in the upper-left corner on the back of the floppy disk is pushed down so that you cannot see through the square hole. 5¼" disk drives are common on older computers, but are not standard on new computers.  John wants to make a copy of the information he has compiled on his floppy disk. He'll copy it to the disk he formatted in the previous lesson.

Steps 1 2 3 4

Trouble?

If you store your Project Files on a network or hard drive, copy the Project Files to a floppy disk before completing this lesson.

1. Insert the disk that stores your Project Files in the appropriate drive, then right-click the **drive icon** containing your Project Files in the left pane of Windows Explorer
In this example, the icon representing the 3½" disk drive is highlighted, and the shortcut menu for the left pane opens, as shown in Figure F-2.
2. Click **Copy Disk** on the shortcut menu
The Copy Disk dialog box opens, as shown in Figure F-3. On the left side of the dialog box, you select the **source disk** from which you want to copy. On the right side, you select the **destination disk** to which you want to copy. Both the disk you are copying from (the Project Disk) and the disk you are copying to (the disk you formatted in the previous lesson) are 3½" floppy disks, so the drive shown is the same. The 3½ Floppy (A:) or (B:) icons on both sides of the dialog box are selected by default; no additional drives appear because the computer in this example does not contain additional floppy disk drives, although yours might.
3. Click **Start**, then click **OK** in the Copy Disk message box
A progress meter appears in the Copy Disk dialog box with the status message "Reading source disk." After reading the source disk, a Copy Disk message box opens, asking you to insert a destination disk.
4. Remove your Project Disk, label the blank formatted disk from the previous lesson **Copy of Project Disk**, insert it into the same drive, then click **OK** in the Copy Disk message box
In the Copy Disk dialog box the progress meter continues with the status message "Writing to destination disk." Upon completion, the status message "Copy completed successfully" appears.
5. Click **Close** in the Copy Disk dialog box
Now that he has a copy of his disk, John can perform maintenance operations on his disk without worrying about losing any information. Leave the "Copy of Project Disk" disk in the floppy drive for the next lesson.

FIGURE F-2: Windows Explorer with shortcut menu for floppy disk

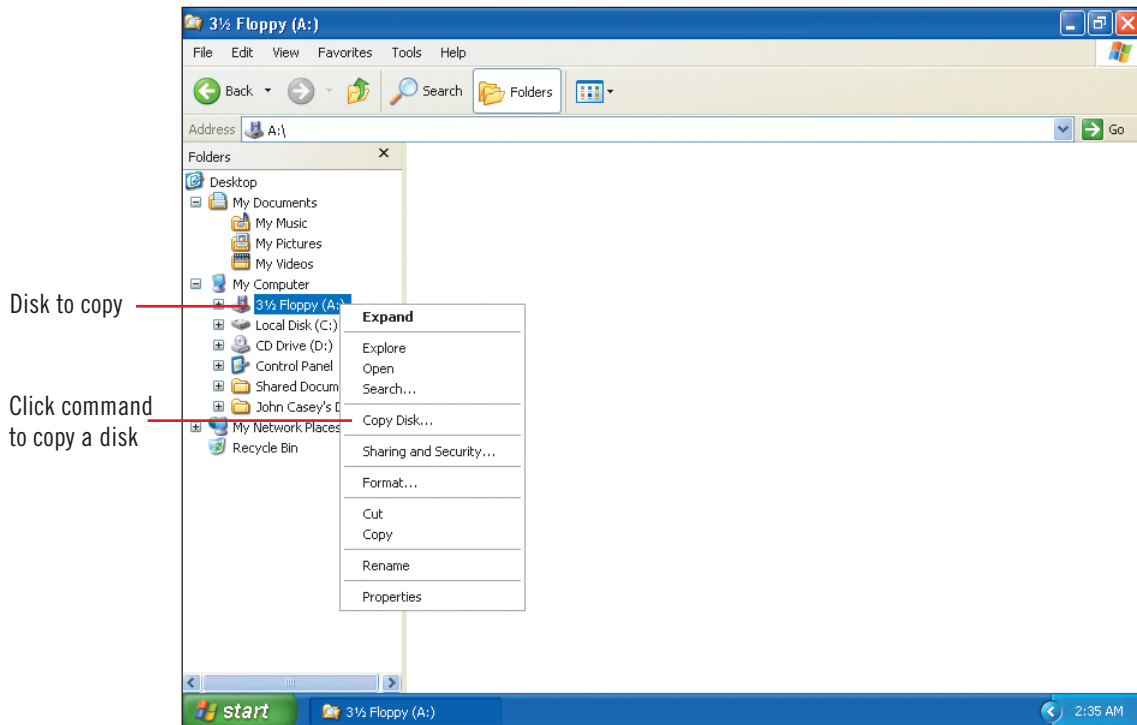
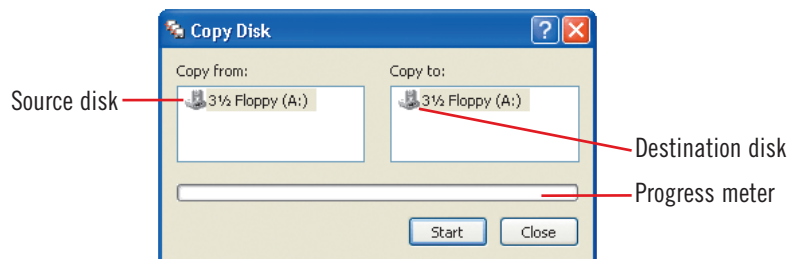


FIGURE F-3: Copy Disk dialog box




Synchronizing files between computers

If you want to work with files that are copied onto two different computers, such as your work computer and your home computer, you can **synchronize** the files to keep the various copies updated between computers using a Windows feature called **Briefcase**. Before you can use Briefcase, you need to create one. Open the folder in My Computer where you want the new Briefcase to appear, or display the desktop. Right-click an empty area of the desktop or My Computer, click New, then click Briefcase. To use Briefcase, drag the files you want to copy to your

other computer from Windows Explorer to the Briefcase icon. Then, drag the Briefcase icon to the icon for the removable disk drive, and remove the disk. You can now insert the removable disk in a different computer. If you edit the files, you need to synchronize them when you return to your main computer. To synchronize them, reinsert the removable disk, double-click the Briefcase icon, then click Update All on the Briefcase menu to copy the new versions of your files from the removable disk to the hard disk.



Finding and Repairing Disk Errors

Sometimes an unexpected power loss or program error can create inaccessible file segments that take up space on a hard disk or a floppy disk. The **Check Disk** program that comes with Windows helps you find and repair damaged sections of a disk. Check Disk can also be used to find physical disk errors or **bad sectors**. The program doesn't physically repair your media, but it moves data away from any bad sectors it finds. To keep your hard disk drive working properly, you should run Check Disk from time to time. When you run Check Disk, all files must be closed for the process to run. While the Check Disk process is running, your hard disk will not be available to perform any other task.  John wants to make sure his disk has no problems, so he runs Check Disk. For this lesson, use the copy of your Project Disk that you made in the previous lesson.

Steps 1234


1. Close any open files or programs, right-click the **drive icon containing the copy of your Project Disk** in the left pane of Windows Explorer, then click **Properties** on the shortcut menu

The Properties dialog box opens.

2. Click the **Tools tab**

The Properties dialog box appears with the Tools tab, as shown in Figure F-4, in which you can start the Check Disk program. The Tools tab also provides you with access to other utilities that can make Windows work more efficiently: defragmentation and backup, which is available only with the Professional version of Windows XP. Defragmentation starts the Disk Defragmenter program and optimizes a disk for better performance, while backup starts the Backup program and copies files and folders to a disk for safe keeping.

QuickTip

For Help, click the Help button  in the title bar, then click any item to display a Help screen.

3. In the Error-checking area, click **Check Now**

The Check Disk dialog box opens, as shown in Figure F-5.

4. Click the **Automatically fix file system errors check box** to select it

This option repairs most errors automatically using predetermined settings.

5. Click the **Scan for and attempt recovery of bad sectors check box** to select it

This option makes corrections for any unreadable or bad sectors on the disk.

6. Click **Start**

A progress meter appears, displaying scanning status. When the process is complete, the Disk Check Complete message box opens.

7. Click **OK** in the Disk Check Complete message box, then click **OK** to close the Properties dialog box

8. Click the Windows Explorer **Close button**

9. Remove the copy of your Project Disk from the appropriate drive on your computer, then insert your original Project Disk

FIGURE F-4: Properties dialog box with Tools tab

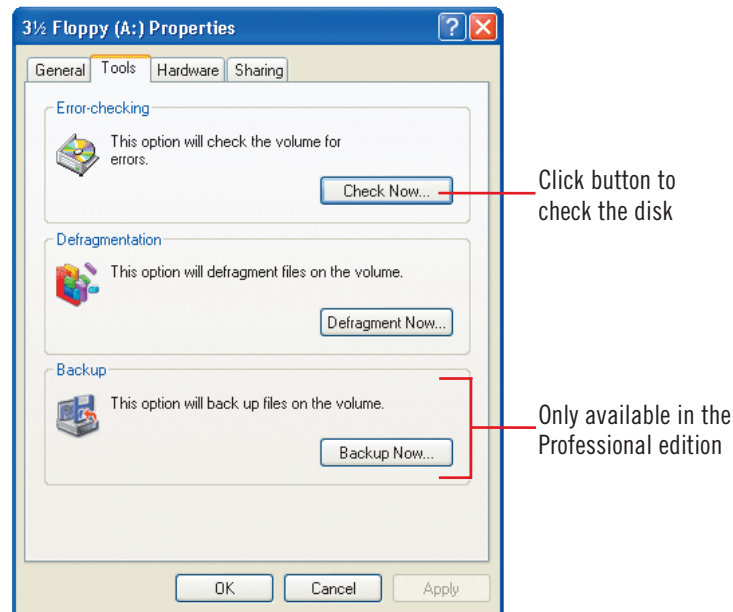
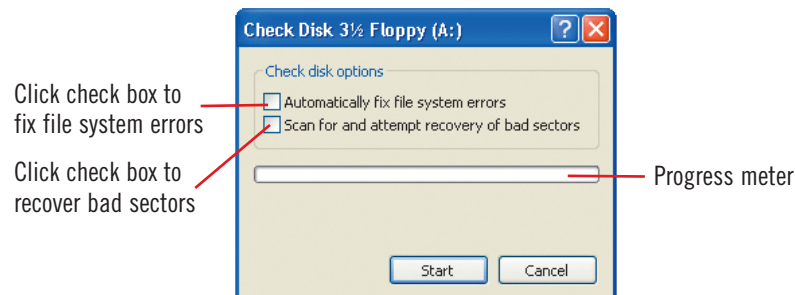


FIGURE F-5: Check Disk dialog box



Backing up files


The more you work with a computer, the more files you create. To protect yourself from losing critical information, it's important to **back up**, or make copies of your files on a separate disk, frequently. If you are using the Windows XP Professional edition, you can click Backup Now on the Tools tab in the disk drive Properties dialog box to open the Backup program and walk you through the Backup or Restore Wizard to help you back up the files on your hard

disk to a floppy or tape drive. You can back up the contents of an entire disk or only certain files. Using the Backup option has several advantages over simply copying files to a floppy, such as compressing files as it copies them so you can fit more onto a floppy disk. It can also split a large file across two or more floppies, something you cannot do with the Copy Disk command.



Windows XP

Defragmenting a Disk

When you delete files from a disk, you create empty spaces that might be fragmented over different areas of the disk. When you create a new file on a fragmented disk, parts of the file are stored in these empty spaces, resulting in a single file that is broken into many parts, which takes longer to retrieve or store when you open or save the file. A file broken up in this way is called a **fragmented file**. To retrieve a fragmented file, the computer must search many areas on the disk, which lengthens retrieval time, but the file is otherwise usable, and it is undetectable to the user that the file is fragmented. You can use the **Disk Defragmenter** program to place all of the parts of a file in one **contiguous**, or adjacent, location. This procedure, which efficiently arranges all of the files and unused space, is called **optimization**. Optimization makes your programs run faster and your files open more quickly. For best results, run Check Disk to check for errors on your disk before you start the disk defragmentation process. While Disk Defragmenter works, you can use your computer to carry out other tasks; however, your computer will operate more slowly.  John uses Disk Defragmenter to optimize his hard disk; you cannot defragment a floppy disk with Windows XP, although you could with previous Windows versions.

Steps 1 2 3 4

1. Click the **Start button** on the taskbar, point to **All Programs**, point to **Accessories**, point to **System Tools**, then click **Disk Defragmenter**

The Disk Defragmenter dialog box opens. You need to choose a hard disk drive, typically, the C: drive.

2. Click the **hard disk drive** if necessary

Before you perform a complete disk defragmentation, you can analyze the disk to determine the extent of the fragmentation.

QuickTip

To temporarily stop Disk Defragmenter, click Pause, then click Resume when you are ready.

3. Click **Analyze**

The analyzing process can take a few minutes, depending on the extent of the fragmentation on your disk. You can monitor the process with the progress meter. Upon completion, the Analysis complete message box opens.

4. Click **View Report**

The Analysis Report dialog box opens, as shown in Figure F-6.

QuickTip

To print the analysis, click Print in the Analysis Report dialog box, then click Print in the Print dialog box.

5. In the Volume information box, click the **down scroll arrow** to display the file fragmentation statistics

The file fragmentation statistics provide information on the total number of files, average file size, total number of fragmented files and excess file fragments, and average fragments per file.

6. Click **Close** in the Analysis Report dialog box

The Disk Defragmenter window appears, as shown in Figure F-7. The defragmentation process can take several minutes or more, depending on the extent of the fragmentation on your disk.

Trouble?

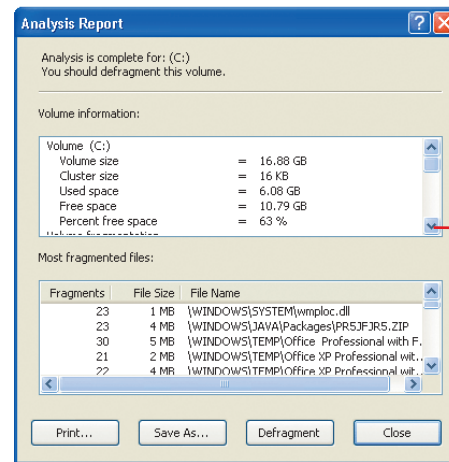
If you are working in a lab, check with your instructor or technical support person for authorization to defragment your hard disk drive. If you do not receive authorization, click the Close button in the Defragmentation window and skip Steps 7 and 8.

7. Click **Defragment**

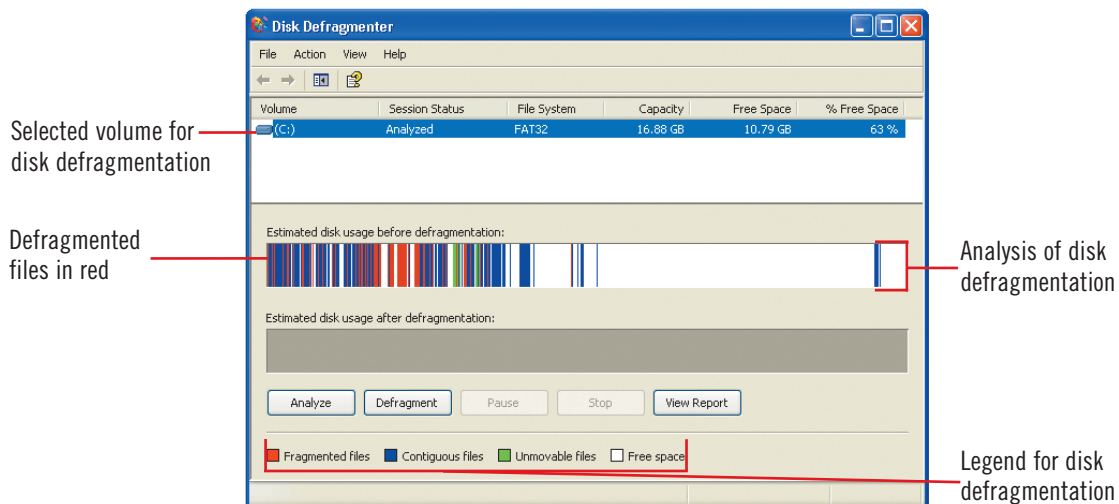
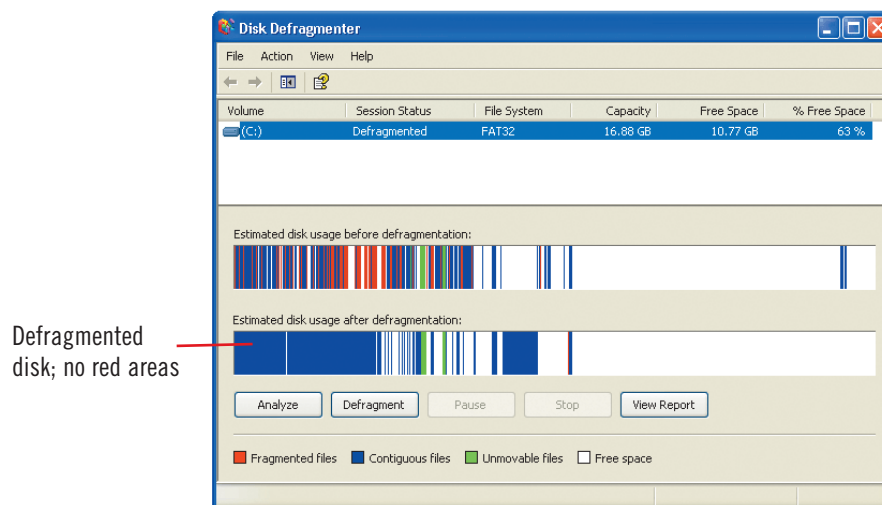
The Analysis display shows you the defragmentation process. Different colored lines, each representing a disk sector, appear in the Analysis display. The colored lines tell you the defragmentation status of your hard disk drive, and the legend at the bottom of the window explains how to interpret the colors. You can monitor the process with the progress meter. When complete, the Disk Defragmenter window opens, as shown in Figure F-8. The Defragmentation display shows you the result of the defragmentation process.

8. When the defragmentation is complete, click **Close**, then click the **Close button** in the Defragmentation window

Your disk is now optimized.

FIGURE F-6: Analysis Report dialog box


Scroll down to display fragmentation information; yours will differ

FIGURE F-7: Disk Defragmenter window**FIGURE F-8: Disk defragmentation process completed**



Windows XP

Cleaning Up a Disk

Cleaning up a disk involves removing unneeded files to make room for other files on your computer, which can be difficult if you don't know the significance of each file. You can use a Windows XP program called **Disk Cleanup** to clean up your hard disk drive safely and effectively. You can also empty the Recycle Bin to clear space on the hard disk. Disk Cleanup searches your drive, then lists temporary files, Internet cache files, and unnecessary program files that you can safely delete. You can select the types of files you want Disk Cleanup to delete. Before you select and delete files, make sure you will not need them in the future. Disk Cleanup also gives you the option to remove Windows components and installed programs that you no longer use.  John decides to clean up his hard disk.

Steps 1234

Trouble?

If you have more than one hard disk, the Select Drive dialog box opens. Click the drive list arrow, click the hard drive for the computer, then click OK to open the Disk Cleanup dialog box.

QuickTip

To clean up Windows components, installed programs, and restore points, click the More Options tab, then click the appropriate button.

Trouble?

If you are working in a lab, check with your instructor or technical support person for authorization to delete the Recycle Bin or any other files. If you do not receive authorization, click Cancel to close the dialog box, then skip Step 6.

1. Click the **Start button** on the taskbar, point to **All Programs**, point to **Accessories**, point to **System Tools**, then click **Disk Cleanup**

Disk Cleanup selects your hard drive and calculates how much disk space you can free on the drive, then the Disk Cleanup for (C:) dialog box opens (the hard drive is C: in this example), displaying the Disk Cleanup tab with types of files to remove and the amount of disk space taken up by each type of file, as shown in Figure F-9. Your list of files to delete might differ.

2. In the Files to delete list, click **Recycle Bin** (but not the check box), then click **View Files**

The Recycle Bin window opens, listing the files currently stored in the Recycle Bin.

3. Click the **Close button** in the Recycle Bin window

4. In the Files to delete box, click the **check boxes** next to any item with a check mark to deselect them (be sure to scroll through the entire list)

5. In the Files to delete box, click the **Recycle Bin check box** to select it

The check mark indicates that you want to delete all the files in the Recycle Bin, as shown in Figure F-10.

6. Click **OK** in the Disk Cleanup dialog box, then click **Yes** in the message box to confirm the deletion

The Disk Cleanup for (C:) message box opens, and a progress meter appears, displaying deletion status. After a few moments, the message box closes. If you open the Disk Cleanup dialog box after deleting the Recycle Bin files, the amount of disk space taken up by the Recycle Bin will be 0 KB.

FIGURE F-9: Disk Cleanup for (C:) dialog box

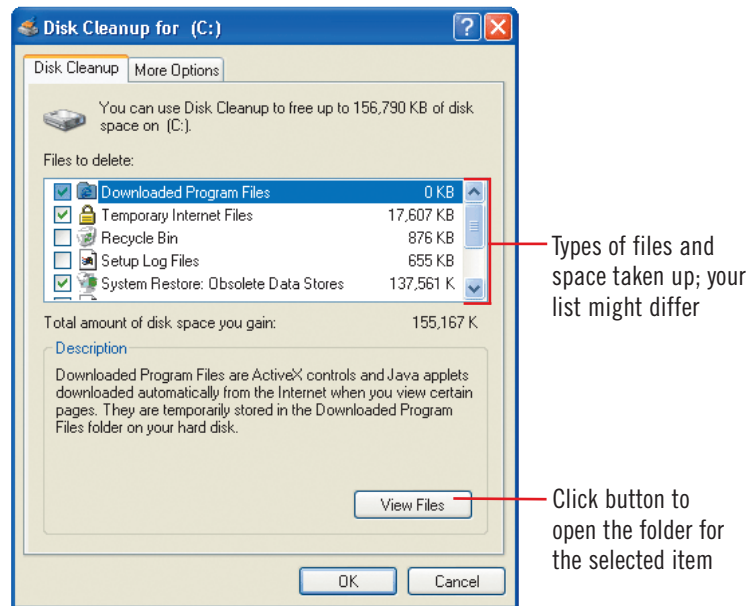
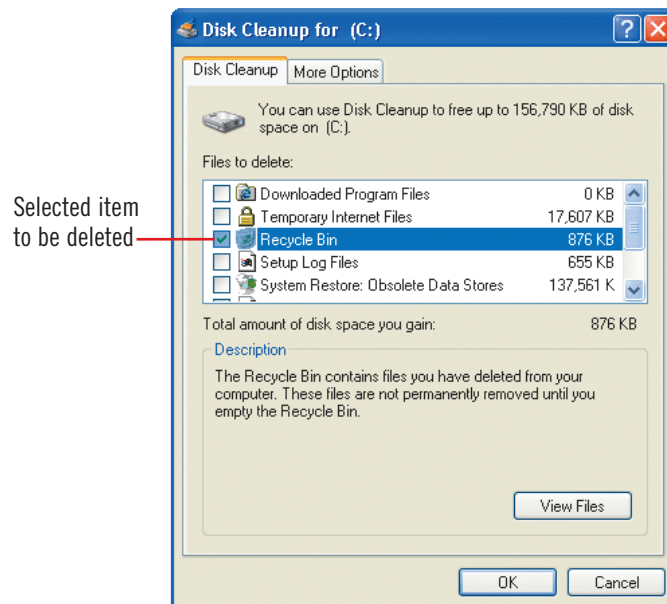


FIGURE F-10: Disk Cleanup for (C:) dialog box with Recycle Bin selected



Terminating an inactive program

If a program stops responding to mouse or keyboard commands, you can use the Windows Task Manager to terminate and exit the program, after which you can restart it. To terminate an inactive program, right-click an empty area on the taskbar, then click Task Manager to open the Windows Task Manager window. Click the Applications tab if necessary. Click the program you

want to terminate in the task list, then click End Task. Sometimes it takes a few moments to terminate the program. If the program still doesn't terminate, click End Task again. When the program termination process completes, click the Close button in the Windows Task Manager window.



Restoring Computer Settings

Windows XP is a reliable operating system, but anytime you make changes to your computer, such as adding or removing software and hardware, you run the risk of causing problems with your operating system. To alleviate potential problems, you can use **System Restore**, a program installed with Windows XP Professional, to undo harmful changes to your computer and restore its settings. System Restore returns your computer system, but not your personal files, to an earlier time, before the changes were made to your computer, called a **restore point**. As you work with your computer, System Restore monitors your changes and automatically creates restore points on a daily basis or at important system events, but you can also create your own restore point at any time. If you have recently performed a system restoration, you can use System Restore to undo your most recent restoration. System Restore is turned on by default when you install the Windows XP operating system, but you can turn it off or make other System Restore changes on the System Restore tab in the System Properties dialog box. John wants to make some changes to his computer, so he creates a restore point in case problems arise.

Steps 1 2 3 4

QuickTip

To restore your computer, start the System Restore program, click the Restore my computer to an earlier time option button if necessary, click Next, select a date and a restore point, click Next to restore and reboot the computer, then click OK in the Restoration Complete dialog box.

Trouble?

Check with your instructor or technical support person for authorization to change the disk space usage; if you do not receive it, skip Step 3, then click Cancel.

QuickTip

To delete all but the most recent restore point, start the Disk Cleanup program, click the More Options tab, click Clean up under System Restore, then click Yes to confirm the deletion.

1. Click the **Start button** on the taskbar, point to **All Programs**, point to **Accessories**, point to **System Tools**, then click **System Restore**

The Welcome to System Restore window opens, as shown in Figure F-11. The window displays an introduction to the process and two or three (or more) options: Restore my computer to an earlier time, Create a restore point, and Undo my last restoration, which will appear only if you have previously performed a restoration.

2. Click **System Restore Settings**

The System Properties dialog box opens, displaying the System Restore tab, as shown in Figure F-12. The System Restore tab allows you to turn off System Restore, which stops the automatic creation of restore points and changes the amount of disk space available for System Restore. Windows needs space on your hard disk to save restore points. When you decrease the available disk space, you reduce the number of restore points. System Restore requires a minimum of 200 MB of available space on your hard disk. If System Restore runs out of disk space, it becomes inactive until sufficient disk space is made available.

3. If your disk space usage is greater than 20%, drag the Disk space to use slider to **20%**, then click **OK**

The Welcome to System Restore window appears.

4. Click the **Create a restore point option button**, then click **Next**

The Create a Restore Point window appears, asking you to type a description for your restore point.

5. In the Restore point description text box, type **Default Windows XP installation**, then type **your initials**

The restore point cannot be changed after you create it, so make sure you have the name you want.

6. Click **Create**

Windows creates a restore point, which includes the current date and time. The Restore Point Created window opens, displaying the day, date, time, and name of the new restore point.

7. Click **Close**

The Restore Point Created window closes.

FIGURE F-11: Welcome to System Restore window

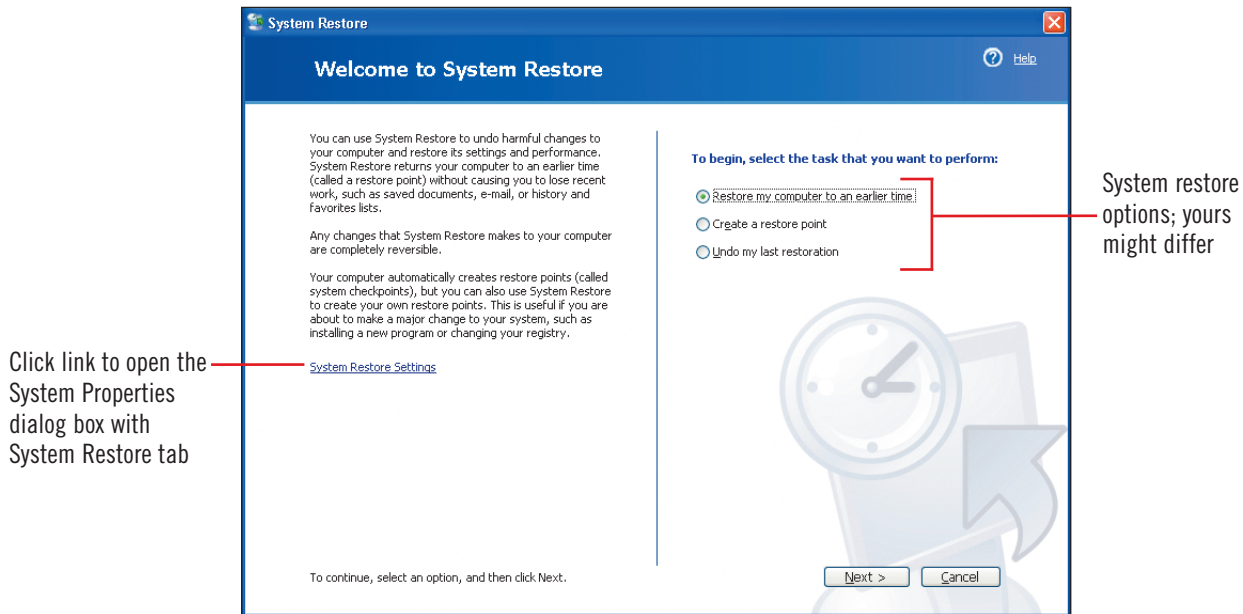
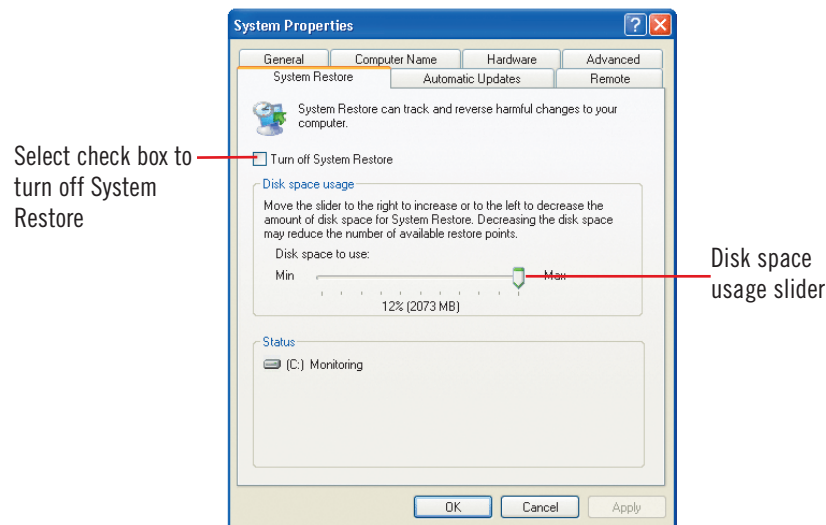


FIGURE F-12: System Properties dialog box with System Restore tab



Recover from a system failure


If your computer doesn't start properly for any reason, known as **system failure**, System Restore will not help you unless you can start the program. You need an Automated System Recovery (ASR) disk to start and recover your computer. To create an ASR with Windows XP Professional, click the Start button on the taskbar, point to All Programs, point to Accessories, point to System Tools, click Backup to start the program, then click Advanced Mode in the Backup Utility Wizard. Click Tools on the menu bar, click ASR Wizard, and then follow the instructions in the Automated System Recovery Preparation Wizard.

During the process, you'll need a blank 3½" floppy disk to save your system settings. You will also need backup media, such as a floppy disk or tape, to contain the backup files. Only those system files necessary for starting up your system will be backed up; personal files will need to be backed up separately, so you only need to do this once. To recover from a system failure using ASR, insert the original Windows XP installation CD in your CD drive, restart your computer from the CD, press [F2] when prompted during the text-only mode section of Setup, insert the ASR floppy disk when prompted, then follow the recovery instructions.



Windows XP

Removing a Program

Adding and removing programs gives you the flexibility to use the programs you need when you need them and to maximize the free space on your hard drive. If you do not use a program very often and want to free some space, you can remove the program. You can always reinstall it. Windows XP comes with many programs called Windows components. If you want to free space on your hard drive, use Add or Remove Programs to remove a component. If you have installed a program that is not included on the Windows XP installation CD, such as Microsoft Office XP, you should avoid using Windows Explorer to delete the program because program files and other information might be located in other places, and you might not find everything. Also, some programs share files with other programs, so deleting them can cause damage to other programs. The Change or Remove Programs feature in Add or Remove Programs will make sure all of the program files are removed, except those which are shared with other programs.  John needs more space on his hard drive, so he decides to remove some game programs.

Steps 1234



If you do not have the Windows XP installation CD-ROM to reinstall the program in the next lesson, don't remove the program in this lesson and simply read through this lesson and the next without completing the steps.

Trouble?

Click **Switch to Classic view** if necessary.

1. Click the **Start button** on the taskbar, then click **Control Panel**

The Control Panel opens in Classic view.

2. Double-click the **Add or Remove Programs icon**  in the Control Panel

The Add or Remove Programs window opens, as shown in Figure F-13, and Setup searches for currently installed non-operating system programs on your computer.

3. Click **Add/Remove Windows Components**

The Windows Components Wizard dialog box opens, and the wizard searches for components installed on your computer. The Components list shows all the components of Windows XP, as shown in Figure F-14. Each component contains one or more parts that you can install or remove. A blank box means that none of the parts of that component are installed; a shaded box means that only some of the parts of the component are installed; and a checked box means that all of the parts of that component are installed. To display what is included in a component, click the component name (but not the check box), then click **Details**. The Accessories and Utilities component at the top of the list is selected.

4. Click **Details** to display Accessories and Utilities subcomponents, click **Games** in the Subcomponents list, then click **Details**

The Games dialog box appears, listing the Windows game components. Windows XP comes with five games that you can play over the Internet. The games take up 8.5 MB of hard disk space, so you want to remove them for now and will reinstall them later.

Trouble?

If you are working in a lab, check with your instructor or technical support person for authorization to remove the program or instructions to remove another one. If you do not receive authorization, skip Steps 5, 6, and 7, then click **Cancel** three times.

5. Click the **Internet Games check box** to deselect it

The Internet Games check box clears. When you clear a check box, Windows removes the component. Make sure that you do not change any other settings.

6. Click **OK** in the Games dialog box, click **OK** in the Accessories and Utilities dialog box, then click **Next** in the Windows Components Wizard dialog box

7. Click **Finish** in the Windows Components Wizard, then click **Close** in the Add or Remove Programs window

The Windows Components Wizard removes the software and reconfigures Windows.

FIGURE F-13: Add or Remove Programs window

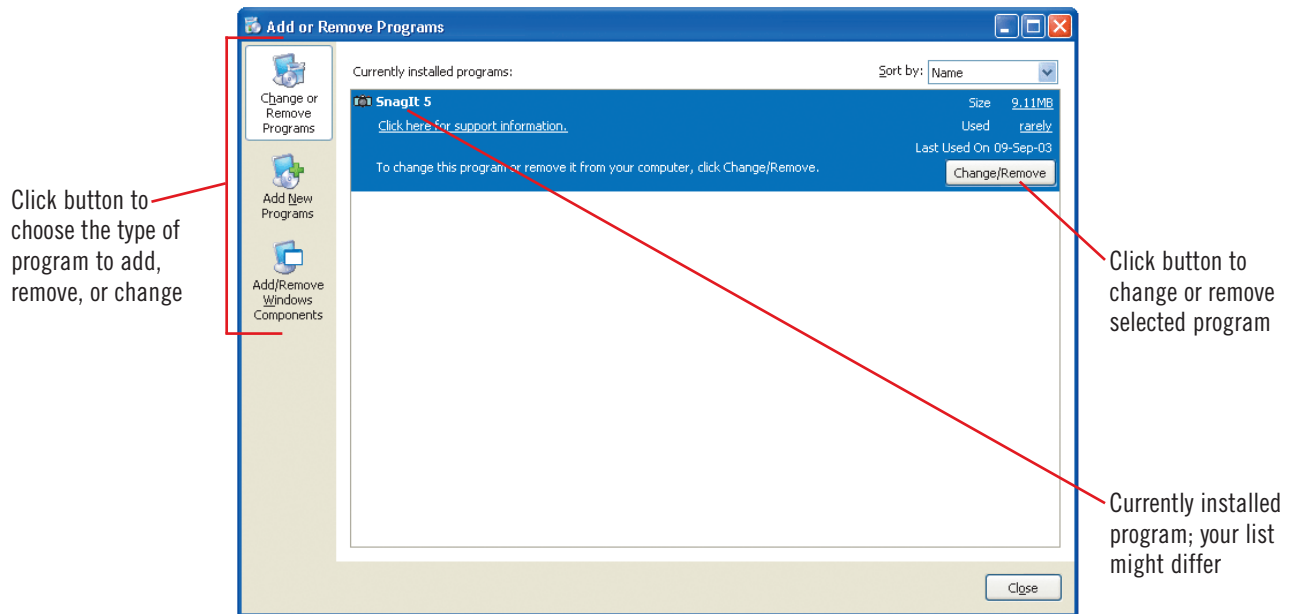
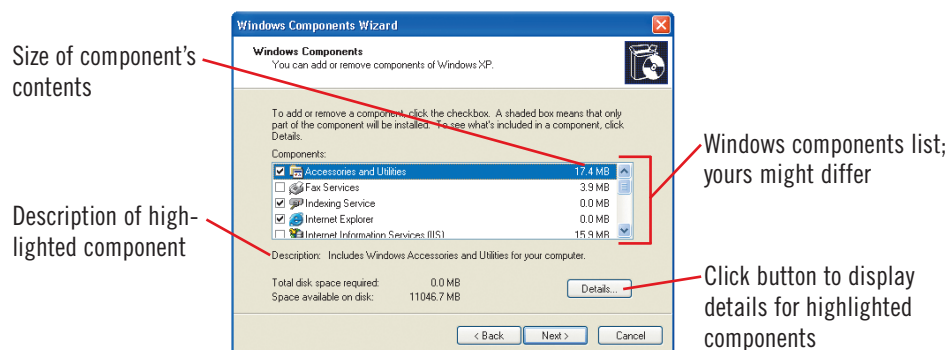



FIGURE F-14: Windows Components Wizard dialog box



Updating Windows using the Web


You can use the Windows Update feature to add the latest Windows updates and new features from the Internet to your Windows XP installation. Windows Update is a Microsoft Web site that helps you keep your computer up-to-date. Windows Update provides a central location where you can find and add new Windows features, system updates, and device drivers. To add features from Microsoft Windows Update, connect to the Internet, click the Start button on the taskbar, point to All Programs, click Windows Update, then follow the instructions on the Web site. Windows Update can review device drivers and system software on your computer, compare those findings with a master database on the Web, and then recommend and

install updates specifically for your computer. Windows Update indicates the approximate download time and whether an update is already installed on your computer. You can also restore to a previous device driver or system file using the uninstall option. Updates are continually added to the Web site, so it is important to check for important new content on a regular basis. If you want to be notified when updates occur, you can set up Windows XP to let you know when they happen. Double-click the System icon  in the Control Panel in Classic view, click the Automatic Updates tab, click the notification setting you want, which includes turning it off, then click OK.



Windows XP

Adding a Program

Windows XP comes with many programs; a typical installation installs only the most common programs, but you can install any additional components as needed. You can use Add or Remove Programs to add Windows components you chose not to include in the original installation or that you removed to free space on a disk. When you install a Windows component, you need the Windows XP installation CD-ROM to complete the process. You can also use the Add New Programs feature in Add or Remove Programs to install programs that are not included on the Windows XP installation CD, such as Microsoft Office XP, or to add the latest Windows updates and new features from the Internet.  John deleted some files to free space on his hard disk, so he can reinstall the Internet games he previously removed.

Steps 1 2 3 4



If you did not remove the program in the previous lesson, simply read through this lesson without completing the steps.

QuickTip

For a currently installed program, click Change/Remove to modify or delete a program installation.

Trouble?

If you do not have the Windows XP installation CD-ROM, see your instructor or technical support person.

1. Double-click the **Add or Remove Programs icon**  in the Control Panel
The Add/Remove Programs window opens. At the same time, the Setup program searches for currently installed programs on your computer, which may take a few moments.
2. Click **Add/Remove Windows Components**
The Windows Components Wizard dialog box opens, and the wizard searches for components installed on your computer. The Components list shows all the components of Windows XP. The Accessories and Utilities component at the top of the list is selected.
3. Click **Details** to display the Accessories and Utilities subcomponents, click **Games** in the Subcomponents list, then click **Details**
The Games dialog box appears, listing the Windows game components. The check boxes indicate which parts are currently installed on your computer.
4. Click the **Internet Games check box** to select it
The Internet Games check box is selected, as shown in Figure F-15. When you select a check box, Windows installs the component. Make sure that you do not change any other settings.
5. Insert the Windows XP installation CD-ROM in the appropriate drive, if the Welcome to Windows screen appears click **Exit** if necessary, click **OK** in the Games dialog box, click **OK** in the Accessories and Utilities window, then click **Next** in the Windows Components dialog box
A status bar appears, indicating progress as the wizard copies files from the installation CD-ROM to your hard drive.
6. Click **Finish** in the Windows Components Wizard dialog box, click **Close** in the Add or Remove Programs window, then click the **Close button** in the Control Panel
7. Click the **Start button** on the taskbar, point to **All Programs**, then point to **Games**
The Start menu highlights the menus and submenus to indicate where the new programs are located, as shown in Figure F-16.
8. Click an empty area of the desktop to close the Start menu, then remove the Windows XP installation CD-ROM from the appropriate drive

FIGURE F-15: Windows Components Wizard dialog box for Games

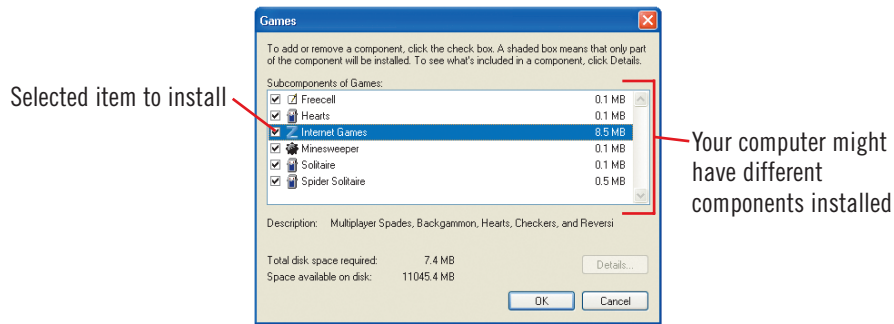
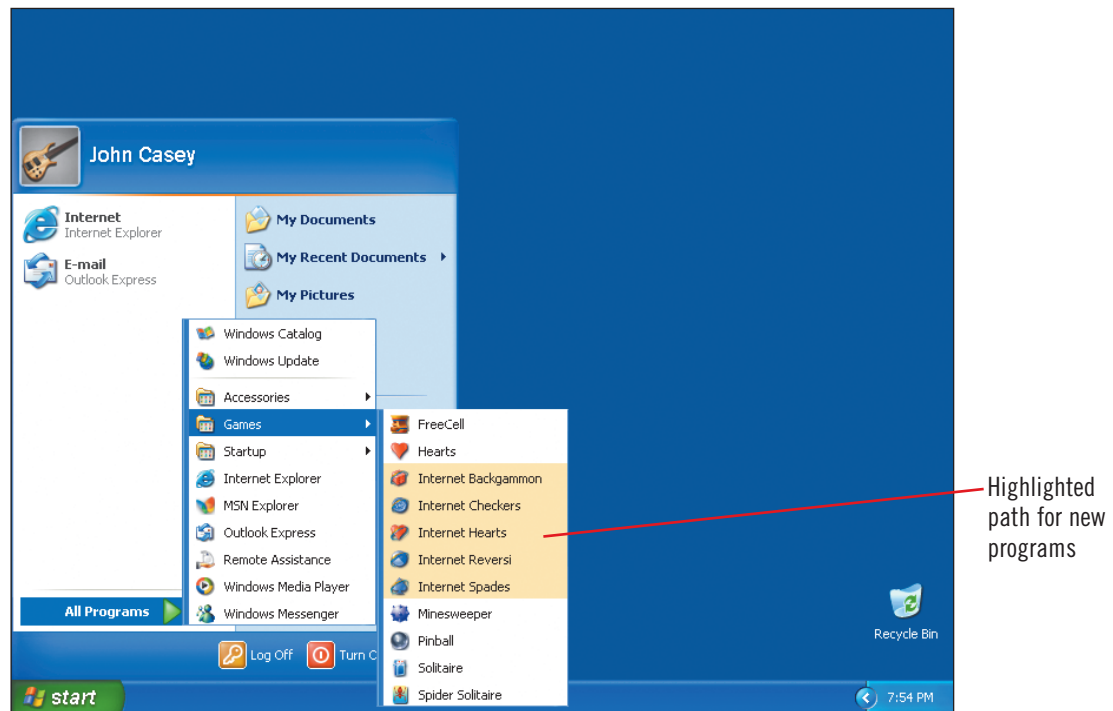


FIGURE F-16: Start menu with a highlighted path



Getting older programs to run on Windows XP

If you have an older program, such as a game, that was written for an earlier version of Windows and doesn't run on Windows XP, you can run the Program Compatibility Wizard to help you fix the problem. The wizard steps you through the process of testing your program in different Windows environments, such as Windows 95, and with various settings, such as screen resolution and color quality. To start the Program Compatibility Wizard, click the Start button on the taskbar, point to All Programs, point to Accessories, click

Program Compatibility Wizard, read the introduction, click Next, then follow the step-by-step instructions. If you have problems installing a program on Windows XP, you can run the Program Compatibility Wizard on the setup file, such as Setup.exe, for the program. If you are comfortable working with the compatibility settings, you can manually set the properties. Right-click the program you want to change, click Properties, click the Compatibility tab, change the compatibility settings you want, then click OK.



Entering DOS Commands

Besides running Windows XP programs, you can also enter commands and run programs written in Windows 3.1 and MS-DOS. **MS-DOS** stands for Microsoft Disk Operating System. MS-DOS, or DOS, employs a **command-line interface** through which you must type commands at a **command prompt** to run different tasks. A character such as a > or \$ appears at the beginning of a command prompt. Each DOS command has a strict set of rules called a **command syntax** that you must follow when expressing a command. Table F-2 lists common DOS commands and their syntax. You can also start Windows XP programs from within DOS; for example, you can type “explorer” after the command prompt to start Windows Explorer. For some tasks, John prefers to enter commands at the DOS prompt. He decides to display the Command Prompt window on his computer and run a few simple commands.

Steps 1 2 3 4

1. Click the **Start button** on the taskbar, point to **All Programs**, point to **Accessories**, then click **Command Prompt**

The Command Prompt window opens, displaying the DOS command prompt, as shown in Figure F-17. The command prompt indicates the current directory, in this case the Documents and Settings directory for John Casey. You can view the contents of the current directory using the dir command.

2. Type **cd c:**, then press **[Enter]**

DOS changes from accessing the Documents and Settings directory for John Casey to accessing the hard drive (C:) directory. The command prompt changes from C:\Documents and Settings\John Casey> to C:\>.

Trouble?

If the contents of the directory don't fill the page, type `cd c:\ program files`, then press **[Enter]** to change the directory.

3. Type **dir /p**, then press **[Enter]**

DOS displays the contents of the hard drive directory. The “/p” part of what you type is called an **argument**, part of the syntax that gives DOS more information about what you want it to do. By adding the optional /p argument to the dir command, DOS displays the contents of the directory one screen at a time. Figure F-18 shows the first screen, also called the **output**, or results, of the command. You can continue viewing the directory listing one page at a time by pressing any key, or you can return to the DOS command prompt at any time by pressing **[Ctrl][C]**.

QuickTip

To view information about a particular DOS command, type the command name, type `/?`, then press **[Enter]** at the DOS command prompt.

4. Press **[Ctrl][C]** to return to the DOS command prompt

5. Type **exit**, then press **[Enter]**

The Command Prompt window closes, and you return to Windows.



Controlling the appearance of the Command Prompt window

Windows XP gives you several options for controlling the appearance of the Command Prompt window, including a Control Panel program called Console. To open the Console, right-click the Command Prompt window title bar, then click Properties. In the “Command Prompt” Properties dialog box, you can

click the Options tab to change the cursor size and display options, click the Font tab to change font sizes and styles, click the Layout tab to change the window size and position and screen buffer size, then click the Colors tab to change screen text, screen background, popup text, and popup background colors.

FIGURE F-17: Command Prompt window

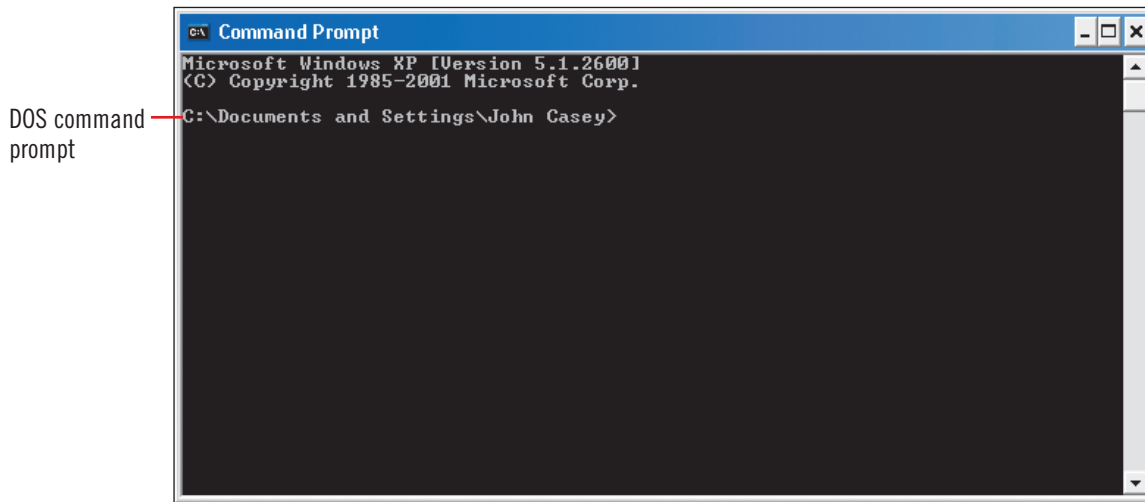
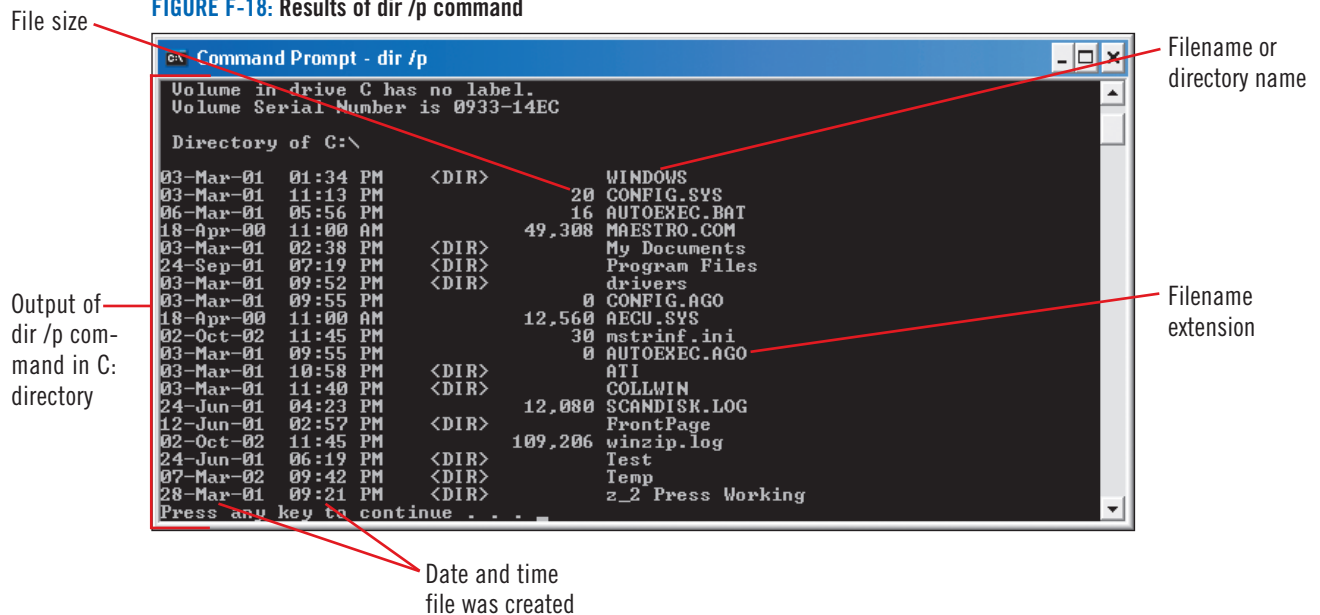


FIGURE F-18: Results of dir /p command

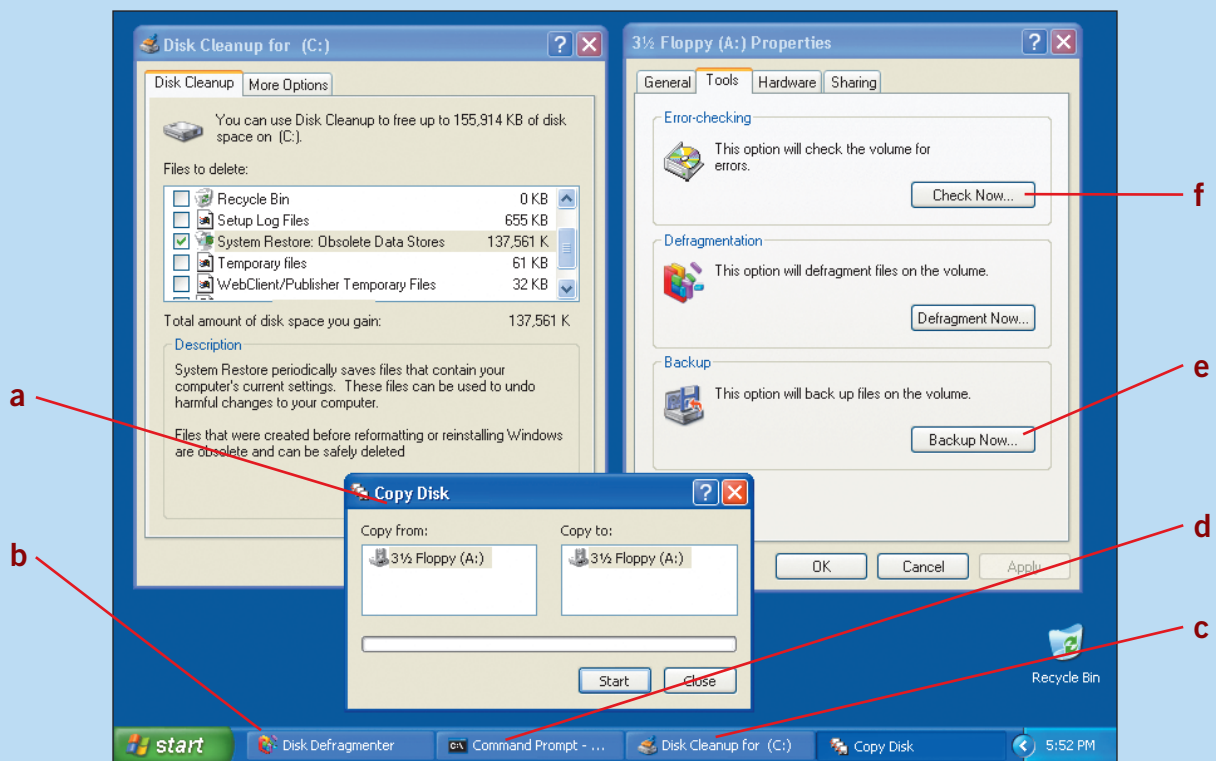
TABLE F-2: Common DOS commands (arguments are in *italics*)

| command | purpose |
|-----------------------------|---|
| cd <i>foldername</i> | Opens the folder named <i>foldername</i> |
| dir /p | Lists the contents of the current folder, one screen at a time if you use the /p argument |
| dir <i>at*.doc</i> | The asterisk is a wildcard and represents any number of characters in a filename. The command matches <i>at back.doc</i> , <i>ati.doc</i> , and <i>atlm.doc</i> |
| exit | Closes the Command Prompt window |
| more <i>filename</i> | Displays the contents of a file, one screen of output at a time |
| type <i>filename</i> | Displays the contents of the text file named <i>filename</i> |

► Concepts Review

Label each element of the screen shown in Figure F-19.

FIGURE F-19



1. Which element optimizes a disk?
2. Which element deletes files from a disk?
3. Which element copies files from disk to disk?
4. Which element fixes and repairs a disk?
5. Which element accepts MS-DOS commands?
6. Which element copies files from disk to tape?

Match each term with the statement that describes its function.

- | | |
|-----------------------------------|----------------------|
| 7. Reinstalls computer files | a. Disk Cleanup |
| 8. Optimizes disk access | b. Check Disk |
| 9. Deletes files | c. Disk Defragmenter |
| 10. Stores files | d. System Restore |
| 11. Finds and repairs disk errors | e. Formatted disk |

Select the best answers from the following lists of choices.

12. Which option performs a disk format that removes all files from a disk and scans the disk for bad sectors?

| | |
|----------------------------|---------------------------|
| a. Quick Format selected | c. Full Format selected |
| b. Quick Format deselected | d. Full Format deselected |

13. When copying a floppy disk, the disks that you use do **NOT** need to be:
 - a. Formatted.
 - b. The same size.
 - c. The same type.
 - d. Non write-protected.
14. Which of the following locations is **NOT** a tool on the drive properties dialog box?
 - a. Error checking
 - b. Defragmentation
 - c. Maintenance
 - d. Backup
15. Which of the following is **NOT** a Check Disk function?
 - a. Finds damaged sections of a disk
 - b. Moves data away from damaged sections of a disk
 - c. Repairs damaged sections of a disk
 - d. Physically repairs a damaged disk
16. Disk defragmentation arranges:
 - a. Data files.
 - b. Unused space.
 - c. System files.
 - d. All of the above.
17. Which of the following is **NOT** a Disk Cleanup file type?
 - a. Program Files
 - b. Recycle Bin
 - c. Temporary files
 - d. Temporary Internet files
18. When you type the DOS command *more text.txt*, DOS:
 - a. Displays the contents of the file text.txt.
 - b. Finds the file text.txt.
 - c. Displays the contents of the file text.txt one screen at a time.
 - d. Displays more information about the file text.txt.

► Skills Review



If you are working in a lab, check with your instructor or technical support person for authorization to perform Steps 4-8; if you do not receive authorization, skip Steps 4-8.

1. Format a disk.

- a. Start Windows Explorer.
- b. Insert a disk in the floppy drive. (You can reuse the disk "Copy of Project Files Disk" that you created in this unit.)
- c. Right-click the drive icon containing your floppy disk, then click Format.
- d. Click the Quick Format check box to deselect it if necessary, click Start, then click OK in the warning box.
- e. Click OK in the message box, then click Close in the Format dialog box.
- f. Remove the formatted disk from the floppy drive.

2. Copy a disk.

- a. Insert the disk with your Project Files in the floppy drive.
- b. In Windows Explorer, right-click the floppy disk drive, then click Copy Disk.
- c. In the Copy Disk dialog box, click the drive containing the disk with your Project Files, click Start, then click OK in the message box.
- d. When prompted, remove the floppy disk with your Project Files, insert the blank disk you just formatted (not the disk with your Project Files) in the floppy drive, then click OK.
- e. Click Close in the Copy Disk dialog box when done and leave the disk in the floppy drive.

3. Find and repair disk errors.

- a. In Windows Explorer, right-click the drive icon containing your Project Files, then click Properties.
- b. Click the Tools tab, then click Check Now.
- c. Click the Automatically fix file system errors check box to select it.
- d. Click the Scan for and attempt recovery of bad sectors check box to select it, then click Start.

- e. Click OK in the message box, click OK in the Properties dialog box, then click the Close button.
 - f. Remove the floppy disk, then insert your original disk containing your Project Files.
- 4. Defragment a disk.**
- a. Start Disk Defragmenter.
 - b. Click the hard disk drive (typically, the C: drive), then click Analyze.
 - c. Click View Report, click Print, then click Print in the Print dialog box.
 - d. Click Close in the Analysis Report dialog box, then click the Close button.
- 5. Cleanup a disk.**
- a. Start Disk Cleanup.
 - b. If necessary, click the drive list arrow, click the hard disk drive, then click OK.
 - c. In the Files to delete list, click Temporary Internet Files (but not the check box), then click View Files.
 - d. Click the Content window Close button.
 - e. Click the check boxes next to any items with check marks to deselect the items. (Be sure to scroll through the entire list.) Click the Temporary Internet Files check box to select it.
 - f. Click OK in the Disk Cleanup dialog box, then click Yes in the message box.
- 6. Restore computer settings.**
- a. Start System Restore. Create a restore point with your name, then close System Restore.
- 7. Remove a program.**
- a. Open the Add or Remove Programs window from the Control Panel.
 - b. Open the Windows Components Wizard dialog box.
 - c. Open the details for Accessories and Utilities, then open the details for Accessories.
 - d. Deselect the Character Map check box if necessary, then complete the wizard to remove the program.
- 8. Add a program.**
- a. Open the Add or Remove Programs window from the Control Panel.
 - b. Open the Windows Components Wizard dialog box.
 - c. Open the details for Accessories and Utilities, then open the details for Accessories.
 - d. Select the Character Map check box.
 - e. Insert a Windows XP installation disk or CD-ROM, then complete the wizard to add the program.
 - f. Remove the installation CD-ROM, then close the Control Panel.
- 9. Enter DOS commands.**
- a. Start Command Prompt.
 - b. Type **cd c:\program files**, then press [Enter]. Type **dir /w**, then press [Enter].
 - c. Type **exit**, then press [Enter].

► Independent Challenge 1

You own Wilkenson & Associates, an international public relations firm that specializes in overseas travel. You want to protect important company data from software viruses.

- a. Format a blank floppy disk using the Full Format type and the label Backup. You can use the copied disk you made in this unit if you want, but not the disk with your Project Files.
- b. Copy the files **2003 Income Projections** and **2003 Expense Budget** from the disk with your Project Files to a blank formatted disk.
- c. Scan the floppy disk for errors. Label the disk for easy identification.

► Independent Challenge 2

You are the network administrator at Robotz, Inc., a toy company that specializes in the production and distribution of robots. You want employees to update their computer systems with the latest Windows XP components. You check out the Windows Update Web site and determine which components you want the employees to install.

- a. Start the Add/Remove Programs utility in the Control Panel. Connect to the Internet as necessary.
- b. Click Add New Programs, then click Windows Update to access the Windows Update Web site in your browser.
- c. Click the About Windows Update link. If you are starting Windows Update for the first time, you might be prompted to install additional software.
- d. Click the Support Information link. Click the Pick updates to install link.
- e. Display and print the Critical Updates page and the Windows XP page with the software updates for your Windows system.
- f. Close the Add/Remove Programs window and the Control Panel.
- g. Close your Web browser and disconnect from the Internet.

► Independent Challenge 3

You are a course developer at EZSoft Inc., a computer training company that specializes in training beginner- to expert-level software users. You are developing a new course on maintaining a computer. You are currently working on a lesson to teach students how to speed up disks by using the Windows system tools Check Disk and Disk Defragmenter.

- a. Open WordPad, then create a document called **Win Tools Training** on the drive and folder where your Project Files are located that instructs students on how to use the Check Disk and Disk Defragmenter system tools.
- b. Follow the steps in the WordPad document to check and defragment the hard disk drive (see your instructor or technical support person for authorization to defragment your hard disk), and take at least one print screen of the Check Disk and Disk Defragmenter window as you go through the material, and insert the picture in the WordPad document. To take a print screen of the current window and then insert it into the WordPad document, press [Alt][Print Screen] to copy the picture to the Clipboard, switch to the WordPad document, place the insertion point where you want the picture, then click the Paste button on the WordPad toolbar.
- c. Save the document, print it, then close WordPad.

► Independent Challenge 4

You are an employee at an insurance firm. Since installing Windows XP, one of your DOS programs has been behaving erratically. To help figure out the problem, you need to display the autoexec.bat or config.sys file in DOS.

- a. Click the Start button on the taskbar, point to All Programs, point to Accessories, then click Command Prompt.
- b. Type **cd c:\Windows** at the DOS prompt, then press [Enter].
- c. Type **More win.ini** at the DOS prompt, then press [Enter].
- d. Press [Enter] to step through the file. (*Hint: press [Ctrl] [C] to cancel at any time.*)
- e. Print the screen. (Press [Alt][Print Scrn] to make a copy of the window, open Paint, click Edit on the menu bar, click Paste to paste the screen into Paint, then click Yes to paste the large image, if necessary. Click the Text button on the Toolbox, click a blank area in the Paint work area, then type your name. Click File on the menu bar, click Page Setup, change 100 % normal size to 50% in the Scaling area, then click OK. Click File on the menu bar, click Print, then click Print.)
- f. Press [Spacebar] to advance to the next screen if necessary, then type **exit** to return to Windows.

► Visual Workshop

Re-create the screen shown in Figure F-20, which shows the results of using the Disk Cleanup for (C:) dialog box. Print the screen. (See Independent Challenge 4, Step e for screen printing instructions.) If you are working in a lab, check with your instructor or technical support person for authorization to delete all the files in the Disk Cleanup for (C:) dialog box.

FIGURE F-20

